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## The Evolution of Digital Signage in Retailing

By Jeff Collard, President, Omnivex Corporation

There have been numerous technological advances that reshape the way people communicate and interact with information. We are in the midst of one such advance - the development and acceptance of digital signage. By combining the capabilities of computer graphics, broadband access and flat panel display technologies, digital signage is becoming more prevalent as a communications resource for many organizations and companies, including retailers.

In order to provide some guidance on the real promise of this technology, this we can look at historic examples from other technological breakthroughs to explain how things might unfold with digital signage. The basic premise is that there are three phases of evolution within technology advances, and by looking at digital signage in this light we can learn a great deal. These ideas can really reshape the way retailers look at digital signage and help bring focus to the discussion about content for the screens.

### Three Phases of Evolution

When looking at the societal acceptance of new mass communications technologies, three phases become apparent:

Phase 1: focus on infrastructure  
Phase 2: focus on content  
Phase 3: focus on context

Understanding which phase a new technology is in helps us set realistic expectations for the communication medium and helps us determine which strategies to consider and when to begin planning a signage system at retail. To set the stage, let's look at a couple of "recent" advances - in the telephony industry and the Internet.

Telephony's first focus was infrastructure. Hardware was the primary industrial driver as lines, poles, telephones and switches were manufactured and installed. Once the infrastructure was there, the industry entered phase 2 of its evolution. Content became the driver for phase 2, as the industry now needed people to use the infrastructure in order to continue growing. The phone call became a priority event that people responded to, but they did it without context - .i.e picking up the phone without knowing who was calling. Businesses saw an inexpensive opportunity to reach a large number of consumers and developed telemarketing programs.

But as with any action, there is a reaction. People became annoyed with the false alarms such as unwanted phone calls at dinner. What was missing from the incoming phone call was the context around it. This was solved by the introduction of caller ID, ushering in Phase 3 of the evolution. Now the event of the phone call and the call's content had some context to it. In other words, people could determine personal relevance around the content.

Another example of this three-phased evolution is the rise of the Internet. When the National Science Foundation created network access points for commercial companies in 1995, they opened the web to the world. Within a few short years, telecommunications firms had created a backbone for national and regional Internet service providers (ISPs) to connect. Phase 1, developing the infrastructure for the Internet happened very quickly.

As the infrastructure was taking off, phase 2 kicked in with the introduction of browsers and people started creating websites. But the Internet became a huge content and data cloud that was in danger of becoming too amorphous.

With the advent of Web 2.0, phase 3 of this evolution arrived and suddenly the web shifted from a repository of information to an information delivery system based on the viewer, not the author. The web now had context and adoption accelerated. Search engines provided contextual search and its by-product, personal relevance to information. Web 2.0 created a rich user experience that is both dynamic and participatory. The enriched context now available from the Internet's immense data warehouse has put users in control of what they want to see.

### A New Phase for Digital Signage

Digital signage, the newest mass communications medium, is following the same three phase maturation and that allows us to develop better implementations and strategy.

Although the use of video screens for consumer-facing information purposes has recently become pervasive, the actual digital signage industry has a long history that goes back to stock exchanges, call center queues and other less public uses. The early driver for the industry was hardware-focused, even evidenced by the industry's name, digital signage. Systems were sold based on the promise of what might become available from the content side, and installations grew dramatically, especially in consumer-facing locations.

We learned that a digital signage message must be more concise than a 30 second television spot. Many early digital signage networks were stuck in the same phase 2 limitations of the Internet. Just because you have content on a screen does not mean that anyone has to look at it. The problem with phase 2 strategies is that they presume that people will watch what you push out regardless of relevance to them. Like the unidentified phone calls of Telephony's phase 2, if too much information is irrelevant then viewers will soon tire of the displays and their effectiveness is compromised. That situation is here with digital signage, and people are tuning out.

So, the industry like the telephone and Internet, now finds itself entering a consumer-centric phase 3. In other words, users want relevance.

With digital signage, this puts a premium on attaching context to the messages so that they are indeed more relevant to the viewer. And context is not one-dimensional - it can be environmental, geographic, ethnic or generational - and ultimately it becomes personal. This creates a mass communication paradox - retail managers want to reach a broad base of viewers, but the shoppers want individualized messages.

To that point, there are new solutions just entering the market that provide context in content based on binding parameters to multiple data sources. These solutions make the information more relevant to the viewer and therefore more effective. For example, a retailer can adjust promotional items on the screens automatically based on the combination of weather conditions, demographics which may vary by time-of-day or region, and internal inventory levels. This can optimize both the time a person spends making a decision and the resultant sales. This data might include input from the shopper through touch-screen displays, cameras to detect the shopper, or even loyalty cards which can be swiped or read wirelessly by RFID tags or bar codes.

A successful phase 3 implementation realizes that the content is enhanced by the context (data) to optimize the system's usefulness. For example, it is possible to use face recognition and other contextual data to dynamically change messages to suit a particular audience - on the fly. Retail managers need to consider it requires a shift from a content focus to a focus on viewer experience.

Evidence suggests people are already migrating away from a hardware-focus and even basic content to a need for intelligent content - or contextual content. By thinking of digital signage as a communications tool, people are realizing they need to place intelligence at the point of display to capture relevant data, customer interactions and other events that impact the environment. The feedback loop created from a contextually-empowered intelligent system provides a quicker ROI due to viewer interest.

As previously seen, the transition from content to context is a natural phase in technology evolution, so any retailer looking to upgrade their current signage should embrace that fact. Content might be king, but to make the system really work, you can't overlook the importance of a context-driven solution.

Jeff Collard is President of Omnivex Corporation ([www.omnivex.com](http://www.omnivex.com)), which makes enterprise-wide software to manage all aspects of digital signage networks, including content management, real-time data acquisition and distribution, and remote device management. He can be reached at [jcollard@omnivex.com](mailto:jcollard@omnivex.com).

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